



AIMSweb® Training Workbook:

Administration and Scoring of Spelling Curriculum-Based Measurement (S-CBM) for Use in General Outcome Measurement

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Dear AIMSweb Subscriber:

Welcome to the *AIMSweb* formative assessment and basic skills improvement system. *AIMSweb* provides teachers, school administrators, and parents a complement to the summative (high stakes) assessment/evaluation model prevalent in education today. Rather than just providing schools with information about student learning at the end of the school year, *AIMSweb* organizes and reports the results of simple, accurate, low cost, and more frequent testing using validated General Outcome Measures like Curriculum-Based Measurement during the school year. The *AIMSweb* formative assessment model informs the instructional process as it occurs by identifying at risk students as early as possible and importantly, those students who are learning and those who are not progressing satisfactorily. The distinction between “did they learn last year” and “are they learning this year” represents a paradigm shift, one that is critical for quality improvement!

The *AIMSweb* system consists of four components:

1. Two web-based data management and information reporting programs to report and graph the results of Curriculum-Based Measurement (CBM) in early literacy, reading, and spelling.
 - *AIMSweb Benchmark* manages, evaluates, reports, and charts the results of three times per year school benchmark assessments for all students Grades K-8.
 - *AIMSweb Progress Monitor* allows teachers to monitor students at risk or those students with more severe educational needs more frequently to evaluate the effects of interventions and document appropriate instructional changes.
2. Standard General Curriculum Assessment Materials:
 - *Standard Benchmark Reading Assessment Passages*: A set of 3 graded and equivalent standard passages for Grades 1-8 for establishing fall, winter and spring reading benchmarks (24 total passages). These passages are also available in Spanish.
 - *Standard Progress Monitoring Reading Assessment Passages*: A set of 30 graded and equivalent passages for Grades 2-8, 20 for Grade 1 and 20 for Primer Level for use in more frequent and continuous monitoring (250 passages total).
 - *Early Literacy Indicators*: A set of 3 equivalent Standard Benchmark Early Literacy Indicators to assess Phonemic Awareness and Phonics for Kindergarten and Grade 1 for establishing fall, winter, and spring benchmarks.
 - *Early Literacy Indicators for Progress Monitoring*: A set of 20 equivalent Standard Early Literacy Indicators for Kindergarten and Grade 1 for use in more frequent and continuous monitoring of early literacy skills (20 tests for each indicator).
 - *Standard Maze Passages*: Three Standard Assessment Reading Passages for Grades 1-8 have been prepared in a maze (multiple choice close) format for use as another measure of reading comprehension (24 maze passages total).
 - *Standard Benchmark Spelling Lists*: A set of graded and equivalent standard spelling lists for use in Grades 1-8 for establishing fall, winter, and spring spelling benchmarks (24 total lists).

- ***Standard Progress Monitoring Spelling Lists:*** A set of 30 graded and equivalent lists of Grade 2-8 spelling words per grade and 20 lists of Grade 1 words (230 total) for use in more frequent and continuous monitoring.

3. Training Workbooks designed to train staff to implement the *AIMSweb* system.

- ***Administration and Scoring of Reading Curriculum-Based Measurement (R-CBM) for Use in General Outcome Measurement***
- ***Administration and Scoring of Early Literacy Measures for Use in General Outcome Measurement***
- ***Administration and Scoring of Spelling Curriculum-Based Measurement (S-CBM) for Use in General Outcome Measurement***
- ***Administration and Scoring of Reading Maze for Use in General Outcome Measurement of Reading Comprehension***
- ***Organizing and Implementing a Benchmark Assessment Program***
- ***AIMSweb Progress Monitor - Strategies for Writing Individualized Goals in General Curriculum and More Frequent Formative Evaluation***

AIMSweb trainers are available to deliver the training onsite or the materials can be used without assistance.

4. Online Support:

AIMSweb users become members of a community of users and an online support site (*AIMSonline*) designed to solve problems, answer questions, and contribute to professional development and successful implementation. A network of Strategic School Partners and Certified *AIMSweb* Trainers located around the country are available for inquiries, expertise, training, onsite visits, etc. *AIMSweb* "informs" the teaching and learning process by providing continuous student performance data and reports improvement to students, parents, teachers, and administrators.

Our promise to you is simple. Use of the *AIMSweb* system will improve instruction, increase achievement, and report improvement to all stakeholders.

Gary Germann
President/CEO

Steve Jennen,
Vice President and Chief Technical Officer

Overview of AIMSweb Training Materials

This is one in a series of Training Workbooks developed to accompany *AIMSweb* (Achievement Improvement Monitoring System). The purpose of the series is to provide instruction, delivery models, and practice opportunities to better use *AIMSweb* to improve achievement outcomes.

Administering and Scoring of Reading Curriculum-Based Measurement (R-CBM) for Use in General Outcome Measurement provides instruction and practice in the skill area of reading. The workbook is accompanied by the AIMSweb Practice Video which contains segments of students reading to demonstrate key features of administering and scoring the graded reading tests. Critical activities to complete before, during, and after testing, including scoring rules, are provided. Practice examples and answer keys are provided for users to observe and score as well as reproducible forms for making testing easier and more accurate. A Power Point Presentation accompanies the user through the training experience.

Administering and Scoring of Spelling Curriculum-Based Measurement (S-CBM) for Use in General Outcome Measurement provides instruction and practice in the skill area of spelling. The workbook is to be used with the AIMSweb Practice Video which also contains demonstrations of key features of administering the graded spelling lists. Critical activities to complete before, during, and after testing, including scoring rules, are provided. Practice examples and answer keys are provided for users to observe and score as well as reproducible forms for making testing easier and more accurate. A Power Point Presentation accompanies the user through the training experience.

Administering and Scoring of Early Literacy Indicators for Use in General Outcome Measurement provides instruction and practice in the skill areas of early reading. The workbook describes five fluency measures designed to assess early literacy acquisition from early Kindergarten to Grade 1, including Beginning Sounds, Letter Names, Letter Sounds, Phonemic Segmentation, and Nonsense Words. The workbook is accompanied by a videotape of students taking these tests to demonstrate key features of administering and scoring each indicator. Critical activities to complete before, during, and after testing, including scoring rules, are provided. Practice examples and answer keys are provided for users to observe and score as well as reproducible forms for making testing easier and more accurate. A Power Point Presentation accompanies the user through the training experience.

Administering and Scoring of Reading Maze for Use in General Outcome Measurement provides instruction and practice in the skill area of reading comprehension. Critical activities to complete before, during, and after testing, including scoring rules, are provided. Practice examples and answer keys are provided for users to observe and score as well as reproducible forms for making testing easier and more accurate. A Power Point Presentation accompanies the user through the training experience.

Organizing and Implementing a Benchmark Assessment Program provides information on how to conduct benchmark testing in general education classrooms. The workbook provides straightforward, simple, and valuable information for planning, communication, and conducting all school benchmark testing. This manual is intended for use with *AIMSweb Benchmark* web-based software.

AIMSweb Progress Monitor - Strategies for Writing Individualized Goals in General Curriculum and More Frequent Formative Evaluation instructs teachers on how to write individualized annual goals for students and monitor progress on a frequent and continuous basis. Intended for use with students in individualized remedial programs - such as special education or Title I - the Training Workbook demonstrates how to write individualized annual goals based on a Survey-Level Assessment (SLA) and provides strategies for collecting student outcome information frequently and continuously. This manual is intended for use with the *AIMSweb Progress Monitor* web-based software.

Big Ideas About General Outcome Measurement (GOM)

Medicine measures height, weight, temperature, and blood pressure; the Federal Reserve Board measures the Consumer Price Index; Wall Street measures the Dow-Jones Industrial Average; companies report earnings per share; and even McDonald's measures how many hamburgers they sell. What do these measures have in common? They all assess general outcomes so decisions are data-based and timely.

Although these measures do not assess *all* health, economic, stock market, business or even fast food sales behavior, they are indicators considered so important to outcomes that *they are routine*. These measures are simple, accurate, and reasonably inexpensive in terms of time and materials. They are collected on an ongoing basis over time. They shape a variety of important decisions.

Education has its own set of indicators of general basic skill success. Derived out of the research base generated by a set of test procedures called Curriculum-Based Measurement (CBM), these General Outcome Measures (GOMs) allow us to make important statements about our students' reading, spelling, written expression, and mathematics computation skills.

CBM was developed more than 20 years ago by Stanley Deno at the University of Minnesota, and implemented into schools by Gary Germann, with the idea of giving educators simple, accurate, and efficient indicators of student achievement. School-based research on CBM with real students and real teachers continues to this day. The references included in this workbook provide extensive information about how CBM was developed and validated, and how CBM can be used to make a variety of general and special education decisions.

Originally, CBM was designed to assess growth and development in students' specific curricula. Teachers created their own individual set of CBM passages based on what they were teaching and used the information to determine students' rates of progress and make changes in instruction as needed. This tie to curriculum had high instructional validity but lacked the necessary other technical features of reliable and valid measurement.

It soon became apparent that the positive effects of testing from materials selected from an individual teacher's curriculum were offset by the lack of standard information about students' progress. Some teachers had "no curriculum," the curriculum would change year to year, and the differences between schools, between teachers within schools, and so on, made accurate decisions about students' progress very difficult. Furthermore, teachers were too often burdened by the business of creating their own testing materials. In addition to being more time consuming, the variability in test practices was a concern.

After considerable research, it has been demonstrated that the perfect correspondence between what CBM assessed and students' specific curricula was not necessary. In fact, by using standard test materials the same judgments about students' level of reading skill and reading progress, could still be made accurately, as well as provide appropriate, standards of growth and development across varied curricula, teachers, schools, and school districts.

What emerged from this school-based research was the following conclusion: Achievement can be improved by testing students (1) using standard, valid assessments, (2) that measured something important, (3) on tasks of about equal difficulty tied to general curriculum (4) over time.

CBM provided the testing procedures to be able to do Numbers 1, 2, and 4. By developing graded and equivalent testing materials of about equal difficulty tied to general curriculum, (Number 3) General Outcome Measurements (GOMs) evolved. Thus, the testing procedures known as CBM are used in an testing approach called General Outcome Measurement.

The Spelling General Outcome Measure: Spelling Curriculum-Based Measurement (S-CBM)

Briefly, this workbook assumes that the user is familiar with the idea that Curriculum-Based Measurement (CBM) is used as a General Outcome Measure. A General Outcome Measure is not intended to make specific statements about how the student is currently performing on a daily or weekly lesson or unit, but to be able to make broader statements like: What is this student's level of general spelling skills compared to other students, or is this student progressing sufficiently in spelling?

In S-CBM, the difference between a traditional spelling test, is not just in the fact that the testing period is shorter or that spelling words are dictated at a carefully set pace. A major difference is that the spelling words are a random sample of *all* the words from graded spelling words. Therefore, fourth-graders may be given 17 words randomly selected from a broad pool of fourth-grade words. The words would be dictated to them every 7 seconds. This type of testing requires that students are tested on a combination of words that they have already learned and words that they will learn to spell in upcoming weeks or months to be good spellers.

A summary of this test by student grade, how long the test is, how students are tested, and what is scored is shown in the table below.

Area	Timing	Test Arrangements	What is Scored
Spelling General Outcome Measure (S-CBM) Grades 1-2	2 minutes New word dictated every 10 seconds	Group or Individual	# of Letters Spelled in Correct Sequence and # of Words Spelled Correctly
Spelling General Outcome Measure (S-CBM) Grades 3-8	2 minutes New word dictated every 7 seconds	Group or Individual	# of Letters Spelled in Correct Sequence and # of Words Spelled Correctly

Examiners use the set of standard directions shown on the next page. Although a little wordy for students initially, field-testing these directions for almost 20 years has resulted in quality responses from most students. Some students may not catch on initially and because the task is novel, we recommend that a short practice test be given. Once students are comfortable with the spelling test, examiners can use the shortened "familiar" directions.

A final difference in spelling is the score that we are most interested in. Like traditional spelling tests, S-CBM can be scored for the number of words spelled correctly (WSC). However, because we are looking for a more exact way of assessing spelling improvement, and because we want to be sensitive to the fact that students will be asked to spell words that they haven't been taught, the most important S-CBM score is the number of Correct Letter Sequences (CLS). As will be shown in this workbook, CLS counts pairs of letters that are placed together correctly within a word. In a sense then, students can receive partial credit for words that in their entirety are incorrect as they progress down the path of becoming good spellers.

S-CBM Standard Directions for 2- Minute Administration

1. Students have lined paper numbered 1 to 12 (dictated every 10 seconds), or 1 to 17 (dictated every 7 sec).

2. Say this to the student(s):

We're going to take a 2-minute spelling test. I am going to say some words that I want you to spell on the sheet of paper in front of you. Write the first word on the first line, the second word on the second line, and so on. I'll give you (7 or 10) seconds to spell each word.

When I say the next word, write it down, even if you haven't finished the last one. You will receive credit for each correct letter written. Are there any questions? (Pause) Let's begin."

3. Say the first word and start your stopwatch (or start the tape recorder).

4. Say each word twice. Use homonyms in a sentence.

5. Say a new word every 7 or 10 seconds.

6. Say "you should be on the fifth word which is ..." (every 5th word for younger children).

7. Monitor students to ensure they are writing on the correct line.

8. Do not respond to student questions.

9. After 2 minutes say, "Stop. Put your pencils down."

Familiar Shortened Directions

Substitute...

"We're going to take a 2-minute spelling test. When I say the word, write it down.

In the first column are the words dictated every 7 seconds to two third-grade students, Elida and Lester. In the second column are Elida's answers. In the third column are Lester's answers.

The S-CBM Results of Two Third-Grade Students

Dictated Word	Elida's Answer	Lester's Answer
between	1. between	1. detwin
brake	2. break	2. drack
lookout	3. lookout	3. wa kout
library	4. library	4. Lijayray
envy	5. envy	5. eve
bandages	6. bandages	6. danges
what's	7. what's	7. wets
taught	8. taught	8. tot
headaches	9. headaches	9. hid aks
raccoon	10. racoon	10. rackoon
weren't	11. weren't	11. wernt
won't	12. won't	12. won't
giraffe	13. giraffe	13. draff
acrobat	14. acrobat	14. acrbat
flexible	15. flexible	15. fiech
February	16. February	16. fed were
ghost	17. ghost	17. gost

1. What do you observe about Elida's and Lester's spelling?
2. How many words do Elida and Lester spell correctly (WSC) in 2 min?
3. How many correct letter sequences (CLS) did Elida and Lester produce in 2 min?

Things to Remember about General Outcome Measurement

Throughout learning to administer and score S-CBM, it is important to remember each of the following features. All General Outcome Measure assessments:

- Are designed to serve as "signs" of general achievement. They don't measure everything, but measure *important* things.
- Are standardized tests. They are intended to be administered, scored, and interpreted in a standard way.
- Are researched with respect to psychometric properties of reliability and validity. When we use standardized CBM assessment procedures, we can be *confident* in accurate measures of general outcomes.
- Are sensitive to improvement in short periods of time. Improvement in CBM scores over time means students are learning to spell, read, or do mathematics computation.
- Are designed to be as short as possible to not conflict with teaching and to ensure its "do-ability."
- Are linked to decision making for promoting positive achievement with general education students and for Problem-Solving decision making with at risk students or those in remedial programs like Title I and special education.

Using Standard Spelling Lists for Testing

Edformation's Standard Spelling Assessment Lists were developed by compiling all the words at each grade from a number of widely used spelling series and selecting the words that were included most often across these series. Words then were randomly sampled to ensure that each list was of approximately equal difficulty. They are “curriculum independent,” allowing teachers to make decisions about **general spelling outcomes** regardless of spelling curriculum differences between teachers and schools.

AIMSweb uses *Standard Spelling Assessment Lists* for use in two web-based information management programs--*AIMSweb Benchmark* and *AIMSweb Progress Monitor*

AIMSweb System	Purpose	Description
<i>AIMSweb Benchmark</i>	<ol style="list-style-type: none"> 1. To screen and identify at risk students in need of spelling interventions. 2. To monitor progress and improvement of individual students in the fall, winter, and spring of the school year. 3. To make program evaluation decisions and improve accountability. 	Three Standard Benchmark Spelling Assessment Lists are used in each grade (1-8) to develop school spelling benchmarks.
<i>AIMSweb Progress Monitor</i>	<ol style="list-style-type: none"> 1. To provide a practical way of writing individualized progress goals, including IEPs. 2. To monitor progress of individual students and determine rate of improvement and intervention success. 3. To provide teachers, parents, and administrators with accountability data. 	Includes 30 Standard Progress Monitor Spelling Assessment Lists per grade (20 for Grade 1) for frequently monitoring the progress of individual students.

AIMSweb software provides an assessment and improvement management system via the Internet. By providing improvement reports in a timely and cost/time efficient manner, teachers, parents and administrators are provided valuable information to improve instruction, increase achievement and report success.

Administration and Scoring of Spelling CBM

This workbook section covers administration and scoring of S-CBM and what examiners need to do (1) before testing students, (2) while testing students, and (3) after testing students. A video for learning how to administer S-CBM as well as five practice tests for learning how to score are included.

Things You Need Before Testing

Before testing students, examiners must have their list of spelling words, other testing materials, and set up an appropriate testing environment:

1. **What the Student Needs for Testing:** In the interest of keeping testing time to a minimum, students are given numbered, lined paper with the exact number of lines for the total number of words that are to be spelled. For example, if the commonly used interval for third graders is used (7-seconds), students would be asked to spell 17 words. Therefore, their response sheet is numbered 1-17. If first graders were given words every 10 seconds, their response sheet is numbered 1-12. These numbered response sheets not only avoid how long it often takes students to “number your paper from 1 to 17,” they reduce potential confusion. Students don’t have to write the number of the spelling word as part of the spelling test—“number 7, rabbit.” Finally, students are less likely to get lost and scoring is easier with poor spellers because the examiner can figure out what word is supposed to be spelled at a given number. A Student Answer Sheet in PDF format is available for download through *AIMSweb*.
2. **What the Tester Uses for Testing:** Testing is made easier by having the list of words to be dictated numbered and the time interval in which the words are to be said clearly marked. A sample examiner copy is shown below. We also have found it useful to make the spelling list easy to use as an answer key by having the number of CLS for each word, a cumulative CLS count, and the total number of CLS printed on the page. For any homonyms, a sentence is written on the spelling list next to the word as shown in the example.

Sample List of Spelling Words With 7-Second Administration Time and CLS

Word	Time	CLS/Count
1. Dog	(start) .....	.4/4
2. Cat	(7 sec) .....	.4/8
3. Bird	(14 sec) .....	.5/13
4. Mouse	(21 sec) .....	.6/19
5. Fly	(28 sec) .....	.4/23
6. Bug	(35 sec) .....	.4/27
7. Snail	(42 sec) .....	.6/33
8. Bat	(49 sec) .....	.4/37
9. Rabbit	(56 sec) .....	.7/44
10. There “We went there.”	(63 or 1 min 3 sec) .....	.6/50
11. Cow	(70 or 1 min 10 sec) .....	.4/54
12. Goat	(77 1 min 17 sec) .....	.5/59
13. Less	(84 or 1 min 24 sec) .....	.5/64
14. Seen	(91 or 1 min 31 sec) .....	.5/69
15. House	(98 or 1 min 38 sec) .....	.6/75
16. Wood	(105 or 1 min 45 sec) .....	.5/80
17. See	(112 or 1 min 52 sec) .....	.4/84
Total CLS Possible .....		.84

3. **Getting the Spelling Lists You Need:** Graded spelling lists are available as part of the *AIMSweb* System. These materials, *Standard Spelling Assessment Lists*, were carefully designed to be “curriculum independent” and allow decision making regardless of between-teacher and between-school differences in spelling curriculum.
4. **Other Things You May Need Before Testing:**
Stop Watch—An accurate, non-intrusive timer. Using the “clock on the wall” is inaccurate and inefficient.

Timing Tape—We have found that many examiners like to use audio tapes with recorded beeps or tones at the prescribed intervals rather than stop watches. Examiners using tapes report that they can attend more carefully to the words that are to be dictated and monitor student test taking more easily.

Arranging the Testing Environment

S-CBM can be given in classroom-size groups, small groups, or 1 to 1. If the testing groups are smaller than the whole class, then the test environment should be quiet so that students can hear each word easily and should be away from distractions.

Consider a Simple Practice Test—Taking a fluency-based for time-driven spelling test is different for some students. We recommend giving students a practice test with very simple words before the first S-CBM testing so that they can be more comfortable with the pace. It can be helpful to provide students with some feedback on their CLS scores to let them understand that they will get “credit” for words, even if they can’t finish.

Be Sure You Can Monitor—Whether doing large or small group testing, be sure that you have access to all students, and in particular, those students who tend to “get lost.” You may need to be able to point to the number of the word they need to spell next if you observe them getting lost.

A Number of Things Must Be Kept in Mind, Though

Keeping the Examiner Out of the Process In our experience, some students often try to spell every word that an examiner says. Therefore, with S-CBM we try to keep the number of words said by examiners to a minimum. During S-CBM testing, words are said only twice, at the designated time and about halfway through the interval. For example, with second graders, a word would be dictated at the 10-second mark and repeated at about the 15-second mark. Unlike many common end-of-the-week spelling tests, only homonyms are used in sentences.

Homonyms While being attentive to minimizing examiner talk, S-CBM adds using homonyms in a sentence, in the sequence “say word-say sentence-repeat word.”

Roam and Project We want to emphasize that with S-CBM in large groups, it is important to move around the room and speak loudly enough for all students to be able to hear. When testing whole classrooms, it is doubly important to keep your head turned appropriately so all students can hear.

Monitor, Monitor, Monitor Examiners need to be on the alert as to when a student may be lost. When testing 1 to 1 or in small groups this monitoring is easy. In larger groups, again, it is important to move around the room. When students are lost, the best strategy is to point to the next number so that the student is ready to spell the next word. Examiners need to be able to identify someone who is lost before they get frustrated and quit or before they say aloud they are lost.

Say the Number of the Word Periodically With younger students (Grades 1-3), it is OK to say the number of the word to be spelled periodically. For example, it is OK to say, “you should be on the fifth word which is..., you should be on the tenth word which is...” Older students report saying the numbers is intrusive.

Try to Avoid Answering Student Questions During Testing Sometimes students will comment that you’re going too fast or say that they are lost. They also may ask what number they are supposed to

be on. Again, this can be minimized by giving students some simple practice tests. When a student gets lost, you must be accessible.

Adhering to End of Timing. Try to ensure that students stop writing as soon as you say ‘stop’ to avoid them going back and adding or correcting.

Seriously Getting Lost and Test Interruptions Because S-CBM is a short test, if a student gets lost and quits, it is possible to re-administer the test to the student later. For students who consistently are lost in whole class testing, small group testing may be more appropriate. Additionally, should the testing process be disrupted, it is easy to start testing again with another spelling list.

After S-CBM Testing: Scoring

After the student(s) has completed a S-CBM spelling test, we recommend scoring soon after. It is easy to score each test for the number of Words Spelled Correctly (WSC). However, the most important task is to determine the number of Correct Letter Sequences (CLS). This score is a better indicator of general spelling skill, is more likely to show change when students are improving in their general spelling ability, and provides diagnostic feedback about what a student is doing correctly to teachers and students.

Scoring WSC

This is very easy. Students must spell the dictated word correctly. While looking at the answer key on the spelling list, examiners circle correctly spelled words and sum them. Complete definitions and examples of the scoring big ideas, plus rules for scoring some more unusual situations are included in Appendix A.

What is a Correct Letter Sequence (CLS)?

A CLS is a pair of letters correctly sequenced within a word. A CLS is not just a correct letter. What is unusual is that the spaces before and after a word are considered “letters” when counting CLS. Think about the word *CAT*.

For *CAT* to be spelled correctly, it is obvious that the *C* must be next to and before the *A* and the *A* must be next to and before the *T*.

Therefore, in *CAT*, we have at least 2 pairs of letters (2 CLS) that go together
C and *A* *A* and *T*

For *CAT* to be spelled correctly, there can't be any letters before the *C*; likewise, there can't be any letters after the *T*. Instead of letters, there must be a space before the first letter and a space after the last letter. We will treat these beginning and last spaces as letters. Therefore, to be spelled correctly, *CAT* must have:

1. A space next to the *C* (1 CLS);
2. The *C* preceding and next to the *A* (1 CLS);
3. The *A* preceding and next to the *T* (1 CLS); and
4. The *T* followed by a space (1 CLS).

The total possible number of CLS in a word is equal to the number of letters plus 1. Thus *CAT* has 4 CLS possible if it is spelled correctly. To help keep track of each student's CLS, each CLS is marked with a caret (^).

Here is another set of examples using the word *TOP*

If written correctly as	_top_	scored as	_ ^t^o^p^ _	CLS = 4
If written as	stop_	scored as	s t^o^p^ _	CLS = 3
If written as	_tops	scored as	_ ^ t^o^ps	CLS = 3

Making Scoring More Efficient

As you gain experience scoring CLS, you will discover a number of strategies that can save you time, especially with very good spellers. Some of them are included below, but remember to be highly accurate the “long way” before using any short cuts.

1. Circle the number of WSC. If all the words are correct, use the cumulative CLS total and don't score each word for CLS.
2. If the student only misses a few words, score those words for CLS and subtract this number from the total possible CLS for those words. This gives you a number of missed CLS. Subtract missed CLS from the cumulative count.
3. Again, if the student misses only a few words, examine the pattern of errors and consider these short cuts:
 - a. Any missing single letter equals 2 missing CLS.
 - b. Any 2 letters together that are missing equals 3 missing CLS.
 - c. Any incorrectly inserted letter equals 1 missing CLS.

Practice List 1: Elida

Let's Score a Student Sample

Look at the results from Elida. Score for the number of WSC and CLS.

Dictated Word	CLS	CC	Elida's Answer	Your Answer
between	8	8	1 between	1 _____
brake	6	14	2 break	2 _____
lookout	8	22	3 lookout	3 _____
library	8	30	4 library	4 _____
envy	5	35	5 envy	5 _____
bandages	9	44	6 bandages	6 _____
what's	7	51	7 what's	7 _____
taught	7	58	8 taught	8 _____
headaches	10	68	9 headaches	9 _____
raccoon	8	76	10 raccoon	10 _____
weren't	8	84	11 weren't	11 _____
won't	6	90	12 won't	12 _____
giraffe	8	98	13 giraffe	13 _____
acrobat	8	106	14 acrobat	14 _____
flexible	9	115	15 flexible	15 _____
February	9	124	16 February	16 _____
ghost	6	130	17 ghost	17 _____
Total		130		WSC___CLS___

CLS = Correct Letter Sequences

CC = Cumulative Count in CLS

Answer Key: Practice List 1: Elida

ANSWER KEY

Dictated Word	CLS	CC	Elida's Answer
between	8	8	① between 8
brake	6	14	② break 3
lookout	8	22	③ lookout 8
library	8	30	④ library 8
envy	5	35	⑤ envy 4
bandages	9	44	⑥ bandages 9
what's	7	51	⑦ what's 7
taught	7	58	⑧ taught 5
headaches	10	68	⑨ headaches 10
raccoon	8	76	⑩ racoon 6
weren't	8	84	⑪ weren't 8
won't	6	90	⑫ won't 6
giraffe	8	98	⑬ giraffe 8
acrobat	8	106	⑭ acrobat 8
flexible	9	115	⑮ flexible 9
February	9	124	⑯ February 9
ghost	6	130	⑰ ghost 6
Total		130	13/121

Practice List 1 was scored as 13 WSC/ 121 CLS

CLS = Correct Letter Sequences

CC = Cumulative Count in CLS

Qualitative Features of Spelling

It also is possible to augment S-CBM scores through a qualitative analysis of student errors. Teachers can look for error patterns (failure to capitalize proper nouns, missing the /oa/ combination). Often it is helpful to provide this analysis to students for positive and corrective feedback. It is important to remember, though, that any miscue analysis in S-CBM should not distract from the accuracy of obtaining the CLS for each student.

Determining Inter-Scorer Agreement

Getting accurate spelling results should not depend on who assesses the students. Because no assessment is perfectly reliable, we need to know how much different examiners agree. This process of obtaining inter-scorer agreement is not done just after training but periodically to ensure that examiners are consistent in administration and scoring.

A simple formula for calculating inter-scorer agreement is:

$$\text{Agreements}/(\text{Agreements} + \text{Disagreements}) \times 100$$

For 2 examiners who scored Dave as 90 CLS and 92 CLS, their inter-scorer agreement would be 98% as follows:

- They agreed that Dave spelled 90 of the correct letter sequences.
- They disagreed on 2 CLS.
- Agreements (90)/Agreements + Disagreements (90 + 2) = 90/92 = .98
.98 x 100 = 98%

Inter-scorer agreement can be determined for more than 1 pair as follows. Each pair of scores are compared for agreements and disagreements, and then entered into the formula.

For 3 examiners (1, 2, 3) who scored Conrad as 100 CLS, 98 CLS, and 97 CLS, their inter-scorer agreement would be 98% as follows:

- Examiner 1 and 2 agreed on 98 CLS and disagreed on 2
- Examiner 1 and 3 agreed on 97 CLS and disagreed on 3
- Examiner 2 and 3 agreed on 97 CLS and disagreed on 1
- Agreements (98 + 97 + 97)/ Agreements + Disagreements ((98 + 2) + (97 + 3) + (97 + 1))
= 292/298 = .98
.98 x 100 = 98%

Inter-Scorer Agreement Exercise 1: Elida

Pick a Partner and Compare Elida's Scores from Your First Practice Example

Your Score for Elida's CLS _____

Your Partner's Score For Elida's CLS _____

Your Agreements _____

Your Disagreements _____

Your Agreements and Disagreements _____

Agreements (_____) / Agreements + Disagreements (_____) = (_____)

(_____) X 100 = (_____) %

Checking out Accuracy of S-CBM Testing

Getting accurate student spelling results should not depend on who tests the students. If we use the Standard Spelling Assessment Lists, their standardized instructions and score correctly, different examiners should obtain about the same results. To ensure that examiners are consistent in administration and scoring, we recommend “check outs,” the process of observing each other administer S-CBM. Use the Accuracy of Implementation Rating Scale (AIRS) provided in Appendix B. After watching a trainee administer S-CBM, complete an AIRS, calculate an inter-scorer agreement and provide feedback. This will ensure accurate and consistent standardized testing.

Books, Book Chapters, and Journal Articles on General Outcome Measurement

Books Available at www.guilford.com or www.amazon.com

Books

- Shinn, M. R. (1989). *Curriculum-Based Measurement: Assessing Special Children*. New York, NY: Guilford.
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Book Chapters

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Appendix A

Complete Scoring Rules

Complete Rules for Scoring Correct Letter Sequences

Omissions. When required letters are not written.

goat

written as

goat	$\wedge g \wedge o \wedge a \wedge t \wedge$	CLS = 5
got	$\wedge g \wedge o \wedge t \wedge$	CLS = 3
gt	$\wedge g \wedge t \wedge$	CLS = 2

Double Letters. When one letter in a double letter combination (tt, ll, oo) is omitted, it usually works best to count treat the first as the first of the 2 letters.

cool

written as

cool	$\wedge c \wedge o \wedge o \wedge l \wedge$	CLS = 5
col	$\wedge c \wedge o \wedge l \wedge$	CLS = 3

fell

written as

fell	$\wedge f \wedge e \wedge l \wedge l \wedge$	CLS = 5
fel	$\wedge f \wedge e \wedge l \wedge$	CLS = 3

Insertions. When extra letters are written.

top

written as

top	$\wedge t \wedge o \wedge p \wedge$	CLS = 4
tope	$\wedge t \wedge o \wedge p \wedge e$	CLS = 3
toap	$\wedge t \wedge o \wedge a \wedge p \wedge$	CLS = 3

taped

written as

taped	$\wedge t \wedge a \wedge p \wedge e \wedge d \wedge$	CLS = 6
tapped	$\wedge t \wedge a \wedge p \wedge p \wedge e \wedge d \wedge$	CLS = 5
tapped	$\wedge t \wedge a \wedge p \wedge p \wedge i \wedge e \wedge d \wedge$	CLS = 5

Capitalized Words Proper nouns must be capitalized.

July

written as

July	$\wedge J \wedge u \wedge l \wedge y \wedge$	CLS = 5
july	$\wedge j \wedge u \wedge l \wedge y \wedge$	CLS = 3

Fred

written as

Fred $^F^r^e^d^$ CLS = 5

fred $f^r^e^d^$ CLS = 3

Hyphenated Words The hyphen is counted as a letter.

re-aim

written as

re-aim $^r^e^-^a^i^m^$ CLS = 7

re aim $^r^e^a^i^m^$ CLS = 5

Abbreviations A period(s) contained within the word is counted as a letter.

Mrs.

written as

Mrs. $^M^r^s^.$ CLS = 5

Mrs $^M^r^s$ CLS = 3

Apostrophes Are Counted As Letters

won't

written as

won't $^w^o^n'^t^$ CLS = 6

wont $^w^o^n^t^$ CLS = 4

Incorrect Splits. When single words are written as two or more words, each space results in the loss of 1 CLS.

iceberg

written as

iceberg $^i^c^e^b^e^r^g^$ CLS = 8

ice berg $^i^c^e^b^e^r^g^$ CLS = 7

Appendix B

Forms

S-CBM Standard Directions for 2- Minute Administration

1. Students have lined paper numbered 1 to 12 (dictated every 10 seconds), or 1 to 17 (dictated every 7 sec).

2. Say this to the student(s):

We're going to take a 2-minute spelling test. I am going to say some words that I want you to spell on the sheet of paper in front of you. Write the first word on the first line, the second word on the second line, and so on. I'll give you (7 or 10) seconds to spell each word.

When I say the next word, write it down, even if you haven't finished the last one. You will receive credit for each correct letter written. Are there any questions? (Pause) Let's begin."

3. Say the first word and start your stopwatch (or start the tape recorder)

4. Say each word twice. Use homonyms in a sentence.

5. Say a new word every 7 or 10 seconds.

6. Say "you should be on the fifth word which is ..." (every 5th word for younger children).

7. Monitor students to ensure they are writing on the correct line.

8. Do not respond to student questions.

9. After 2 minutes say, "Stop. Put your pencils down."

Familiar Shortened Directions

Substitute...

"We're going to take a 2-minute spelling test. When I say the word, write it down.

Accuracy of S-CBM Implementation Rating Scale (AIRS)

Examiner: _____

Observer: _____

X = completed accurately O = incorrect

Date: _____

Observation 1 _____

Observation 2 _____

Observation 3 _____

Step

Observation

1

2

3

Has list of spelling words

Spelling list is from annual words

Spelling list has administration times

Spelling list has CLS by word and cumulative count

Reads directions accurately

Starts stopwatch at first word

Dictates words at correct pace

Dictates words at appropriate volume

Says words twice

Uses homonyms in sentence

Use appropriate "place" cues when appropriate

Monitors students for getting lost

Provides appropriate cues for finding place

Accurate 2 minute timing

Ensures that students stop writing as directed

Appendix C

Practice Exercises

Practice List 2: Lester

Look at the results from Lester, another student spelling the same words as Elida.
Score the number of WSC and CLS.

Dictated Word	CLS	CC	Lester's Answers
between	8	8	1. detwin
brake	6	14	2. drack
lookout	8	22	3. wu kout
library	8	30	4. Lixdilyray
envy	5	35	5. eve
bandages	9	44	6. danges
what's	7	51	7. wets
taught	7	58	8. tot
headaches	10	68	9. hid aks
raccoon	8	76	10. rackoon
weren't	8	84	11. werht
won't	6	90	12. won t
giraffe	8	98	13. dra f
acrobat	8	106	14. acrbat
flexible	9	115	15. fiech
February	9	124	16. fed were
ghost	6	130	17. gost
Total		130	

CLS = Correct Letter Sequences

CC = Cumulative Count in CLS

Practice List 2: Lester

ANSWER KEY

Dictated Word	CLS	CC	Lester's Answers
between	8	8	1. detwin ³
brake	6	14	2. drack ¹
lookout	8	22	3. wu kout ⁴
library	8	30	4. Lij dily ray ⁴
envy	5	35	5. eve ¹
bandages	9	44	6. dange ⁴
what's	7	51	7. wet ²
taught	7	58	8. tot ²
headaches	10	68	9. hid aks ³
raccoon	8	76	10. rackoon ⁵
weren't	8	84	11. werht ⁴
won't	6	90	12. won ⁴
giraffe	8	98	13. drat ²
acrobat	8	106	14. acrat ⁵
flexible	9	115	15. fte ch ³
February	9	124	16. fed weve ⁰
ghost	6	130	17. gos ⁴
Total		130	0/52

Practice List 2 was scored as 0 WSC/ 52 CLS

CLS = Correct Letter Sequences

CC = Cumulative Count in CLS

Practice List 3: Calvin

Now, look at the results from Calvin, a student spelling the same words as Elida and Lester. Score the number of Wsc and Cls.

Dictated Word	CLS	CC	Calvin's Answer	Your Answers
between	8	8	1. Between	1 _____
brake	6	14	2. Brent	2 _____
lookout	8	22	3. look out	3 _____
library	8	30	4. Library	4 _____
envy	5	35	5. Cavy	5 _____
bandages	9	44	6. Bandeg	6 _____
what's	7	51	7. Whats	7 _____
taught	7	58	8. taught	8 _____
headaches	10	68	9. headaches	9 _____
raccoon	8	76	10. racoon	10 _____
weren't	8	84	11. weren	11 _____
won't	6	90	12. won't	12 _____
giraffe	8	98	13. Giraffe	13 _____
acrobat	8	106	14. Acrobat	14 _____
flexible	9	115	15. FLEXIBLE	15 _____
February	9	124	16. February	16 _____
ghost	6	130	17. goght	17 _____
Total		130		WSC__CLS__

CLS = Correct Letter Sequences

CC = Cumulative Count in CLS

Practice List 3: Calvin

ANSWER KEY

Dictated Word	CLS	CC	Calvin's Answers
between	8	8	① Between 8
brake	6	14	2. Breat 3
lookout	8	22	3. Look out 7
library	8	30	④ Library 8
envy	5	35	⑤ Envy 5
bandages	9	44	6. Bandage 4
what's	7	51	7. What's 5
taught	7	58	⑧ Taught 7
headaches	10	68	⑨ Headaches 10
raccoon	8	76	10. Raccoon 6
weren't	8	84	⑪ Weren't 8
won't	6	90	⑫ Won't 6
giraffe	8	98	13. Giraffe 5
acrobat	8	106	⑭ Acrobat 8
flexible	9	115	⑮ Flexible 9
February	9	124	16. February 7
ghost	6	130	17. Ghost 3
Total		130	9/109

Practice List 3 was scored as 9 WSC/ 109 CLS

CLS = Correct Letter Sequences

CC = Cumulative Count in CLS

Practice List 4: Lucinda

Look at the results from Lucinda. Score the number of WSC and CLS.

Dictated Word	CLS	CC	Lucinda's Answers	Your Answers
between	8	8	1. btween	1 _____
brake	6	14	2. brak	2 _____
lookout	8	22	3. lokeont	3 _____
library	8	30	4 Library	4 _____
envy	5	35	5 envey	5 _____
bandages	9	44	6 badges	6 _____
what's	7	51	7 wants	7 _____
taught	7	58	8 tate	8 _____
headaches	10	68	9 headicks	9 _____
raccoon	8	76	10 rachon	10 _____
weren't	8	84	11 whornt	11 _____
won't	6	90	12 wont	12 _____
giraffe	8	98	13 draffe	13 _____
acrobat	8	106	14 arbat	14 _____
flexible	9	115	15 flsbent	15 _____
February	9	124	16 Febyery	16 _____
ghost	6	130	17 gste	17 _____
Total		130		WSC ____ CLS ____

CLS = Correct Letter Sequences
CC = Cumulative Count in CLS

Practice List 4: Lucinda

ANSWER KEY

Dictated Word	CLS	CC	Lucinda's Answers
between	8	8	1. [^] btween [^] 4
brake	6	14	2. [^] brak [^] 4
lookout	8	22	3. [^] lokeont [^] 3
library	8	30	④ Library 8
envy	5	35	5 [^] envey [^] 4
bandages	9	44	6 [^] badges [^] 5
what's	7	51	7 [^] wants [^] 4
taught	7	58	8 [^] tate 2
headaches	10	68	9 [^] headicks [^] 5
raccoon	8	76	10 [^] rachon [^] 5
weren't	8	84	11 [^] whornt [^] 2
won't	6	90	⑫ wont 6
giraffe	8	98	13 [^] drappe [^] 5
acrobat	8	106	14 [^] arbat [^] 4
flexible	9	115	15 [^] flsbent 2
February	9	124	16 [^] fehery [^] 5
ghost	6	130	17 [^] gste 2
Total		130	2/70

Practice List 4 was scored as 2 WSC/ 70 CLS

CLS = Correct Letter Sequences

CC = Cumulative Count in CLS

Practice List 5: Peter

Look at the results from Peter. Score the number of WSC and CLS.

Dictated Word	CLS	CC	Peter's Answers	Your Answer
between	8	8	1. batwen	1 _____
brake	6	14	2. brack	2 _____
lookout	8	22	3. lookout	3 _____
library	8	30	4. library	4 _____
envy	5	35	5. inve	5 _____
bandages	9	44	6. band ve	6 _____
what's	7	51	7. wats	7 _____
taught	7	58	8. tott	8 _____
headaches	10	68	9. hede	9 _____
raccoon	8	76	10. rakoon	10 _____
weren't	8	84	11. wrnt	11 _____
won't	6	90	12. walt	12 _____
giraffe	8	98	13. irat	13 _____
acrobat	8	106	14. acro bat	14 _____
flexible	9	115	15. fles	15 _____
February	9	124	16. february	16 _____
ghost	6	130	17. gost	17 _____
Total		130		WSC___CLS___

CLS = Correct Letter Sequences

CC = Cumulative Count in CLS

Practice List 5: Peter

ANSWER KEY

Dictated Word	CLS	CC	Peter's Answers
between	8	8	1. ^bat^men^ 4
brake	6	14	2. ^brack 3
lookout	8	22	3. ^lookout^ 8
library	8	30	4. ^library^ 8
envy	5	35	5. ^inve 1
bandages	9	44	6. ^band^ve 4
what's	7	51	7. ^wats^ 3
taught	7	58	8. ^tott^ 2
headaches	10	68	9. ^hede 2
raccoon	8	76	10. ^rakoon^ 5
weren't	8	84	11. ^wrnt^ 2
won't	6	90	12. ^Wollt^ 4
giraffe	8	98	13. ^lrat^ 2
acrobat	8	106	14. ^acrobat^ 8
flexible	9	115	15. ^fles 2
February	9	124	16. ^february^ 5
ghost	6	130	17. ^ghost^ 4
Total		130	3/68

Practice List 5 was scored as 3 WSC/ 68 CLS

CLS = Correct Letter Sequences

CC = Cumulative Count in CLS

Appendix D

Summary of Spelling Reliability and Validity Studies

Summary of Reliability Studies of Curriculum-Based Spelling Measures by Type of Scoring System

Study	Subjects	Type of Reliability	Words Spelled Correctly (WSC)	Correct Letter Sequences (CLS)
Marston, 1982	83 3rd-6th graders, who scored below 15th percentile in written expression.	Test-retest (10 weeks) 10 parallel forms, 1 week apart	.87 .80 (mean) .72-.88 (range)	.92 .87 (mean) .73-.92 (range)
Shinn, 1981	71 LD and low-achieving 5th graders	Test-retest (5 weeks) 4 parallel forms, 1 week apart	.85 .85 (mean) .82-.92 (range)	.83 .84 (mean) .90-.92 (range)
Tindal, Germann et al., 1983	30 regular education 5th graders	Test-retest (5 weeks)	.94	.93
Tindal, Germann et al., 1985	30 regular education 4th graders	2 parallel forms at same time	.82	.82
Tindal, Germann et al., 1988	566 regular education students, grades 1-6	Test-retest (20 weeks) 2 parallel forms at same time Interjudge scoring	.91 .96 .99	.86 .97 .91

Summary of Validity Studies for Curriculum-Based Measures of Spelling by Scoring Metric

Study	Subjects	Criterion measure	Words Spelled Correctly (WSC)	Correct Letter Sequences (CLS)
Deno, Mirkin, Lowry et al. 1980 (3 word lists of varying difficulty)	15 LD and 27 regular education students, graders 2 to 6	Test of Written Spelling	.95 (median) .57-.96 (range)	.98 (mean) .86-.99 (range)
Deno, Mirkin, Lowry et al. 1980 (4 word lists of varying difficulty)	10 LD and 35 regular education students, graders 2 to 6	Peabody Individual Achievement Test	.88 (median) .83-.94 (range)	.81 (mean) .80-.90 (range)
Deno, Mirkin, Lowry et al. 1980 (4 word lists of varying difficulty)	29 LD and 32 regular education students, graders 2 to 6	Stanford Achievement Spelling subtest	.88 (median) .83-.89 (range)	.86 (mean) .80-.86 (range)
Marston, 1982	37 low-achieving students, grades 4 to 6, who earned scores (below 15th percentile) on a written expression task.	Stanford Achievement Spelling subtest	.87	.81